

**MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY
OPERATING PERMIT TECHNICAL REVIEW DOCUMENT**

**Permitting and Compliance Division
1520 E. Sixth Avenue
P.O. Box 200901
Helena, Montana 59620-0901**

Holcim (US), Inc.
NE ¼ Section 9, SE ¼ Section 4, SW ¼ Section 3, NW ¼ Section 10, Township 2 North, Range 2 East,
Gallatin County, MT
4070 Trident Road
Three Forks, MT 59752

The following table summarizes the air quality programs testing, monitoring, and reporting requirements applicable to this facility.

Facility Compliance Requirements	Yes	No	Comments
Source Tests Required	X		Visual surveys, Methods 5, 6, 9, and 23
Ambient Monitoring Required		X	
COMS Required	X		Kiln Stack
CEMS Required	X		SO _x , NO _x , and Inlet Temp to PMCD
Schedule of Compliance Required		X	
Annual Compliance Certification and Semiannual Reporting Required	X		
Monthly Reporting Required		X	
Quarterly Reporting Required		X	
Applicable Air Quality Programs			
ARM Subchapter 7 Preconstruction Permitting	X		MAQP #0982-10
New Source Performance Standards (NSPS)	X		40 CFR 60 Subparts F and Y
National Emission Standards for Hazardous Air Pollutants (NESHAPS)	X		40 CFR 61, Subpart M
Maximum Achievable Control Technology (MACT)	X		40 CFR 63, Subpart LLL
Major New Source Review (NSR)/ Prevention of Significant Deterioration (PSD)	X		MAQP #0982-10
Risk Management Plan Required (RMP)		X	
Acid Rain Title IV		X	
Compliance Assurance Monitoring (CAM)	X		Appendix F of Permit OP0982-02
State Implementation Plan (SIP)	X		General SIP

TABLE OF CONTENTS

SECTION I. GENERAL INFORMATION.....	3
A. PURPOSE.....	3
B. FACILITY LOCATION	3
C. FACILITY BACKGROUND INFORMATION	3
D. CURRENT PERMIT ACTION	8
E. TAKING AND DAMAGING ANALYSIS.....	8
F. COMPLIANCE DESIGNATION	9
SECTION II. SUMMARY OF EMISSION UNITS	10
A. FACILITY PROCESS DESCRIPTION	10
B. EMISSION UNITS AND POLLUTION CONTROL DEVICE IDENTIFICATION	10
C. CATEGORICALLY INSIGNIFICANT SOURCES/ACTIVITIES	11
SECTION III. PERMIT CONDITIONS	12
A. EMISSION LIMITS AND STANDARDS	12
B. MONITORING REQUIREMENTS	13
C. TEST METHODS AND PROCEDURES.....	13
D. RECORDKEEPING REQUIREMENTS	14
E. REPORTING REQUIREMENTS	14
SECTION IV. NON-APPLICABLE REQUIREMENT ANALYSIS	15
SECTION V. FUTURE PERMIT CONSIDERATIONS.....	16
A. MACT STANDARDS	16
B. NESHAP STANDARDS	16
C. NSPS STANDARDS	16
D. RISK MANAGEMENT PLAN.....	17

SECTION I. GENERAL INFORMATION

A. Purpose

This document establishes the basis for the decisions made regarding the applicable requirements, monitoring plan, and compliance status of emission units affected by the operating permit proposed for this facility. The document is intended for reference during review of the proposed permit by the EPA and the public. It is also intended to provide background information not included in the operating permit and to document issues that may become important during modifications or renewals of the permit. Conclusions in this document are based on information provided in the original application submitted by Holnam, Inc. (Holnam), the predecessor of Holcim (US), Inc. (Holcim) on May 30, 1996, and an additional submittal on July 7, 2000. Conclusions in this document are also based on correspondence from Holnam of March 18, April 6, and November 12, 2001, and correspondence from Holcim of June 10, 2003, April 12, April 13, August 25, and November 30, 2004, July 6, August 9, and September 22, 2005, the operating permit renewal application submitted on January 26, 2006, and the minor modification application received on November 10, 2008.

B. Facility Location

The facility is located at 4070 Trident Road, approximately 5 miles northeast of Three Forks, Montana. The legal description is the Northeast ¼ of Section 9, the Southeast ¼ of Section 4, and the Southwest ¼ of Section 10, Township 2 North, Range 2 East, in Gallatin County, Montana.

C. Facility Background Information

Montana Air Quality Permit Background

On April 27, 1971, the Ideal Cement Company received **Permit #282-072171**. This permit approved the construction of ten pieces of control equipment, as follows:

- a. An electrostatic precipitator (ESP) to control kiln emissions - sized for 300,000 cubic feet per minute (cfm) @ 700 degrees Fahrenheit (°F), 15 grains per actual cubic feet per minute (gr/acfm) inlet, 0.15 gr/acfm outlet, 99.9% efficient;
- b. A pulsejet type baghouse to control clinker cooler emissions - sized for 100,000 cfm @ 350 °F, 8.3:1 air to cloth ratio, Nomex bags;
- c. Four Micro-pulsaire dust collectors on the rock silos:
 1. 2 @ 7.4:1 air to cloth ratio, 843 square feet (ft²) cloth area, Model IF124; and
 2. 2 @ 7.8:1 air to cloth ratio, 670 ft² cloth area.
- d. Two Micro-pulsaire dust collectors to control emissions from crushing and screening:
 1. Crushing - Micro-pulsaire model IFI-48, 7200-cfm capacity fan; and
 2. Screening - Micro-pulsaire model IFI-24, 6400-cfm capacity fan.
- e. One small baghouse to control emissions at the clinker belt conveyor; and
- f. One small baghouse to control emissions at the dustbin near the precipitator.

On May 3, 1971, the Ideal Cement Company received **Permit #293-080471** to construct the following five pieces of equipment:

- a. Primary Crusher, 450 tons per hour (TPH);
- b. Vibrating Screen, 6 foot (ft) x 12 ft, Missouri-Rodgers;
- c. Raw Mill, 11 ft x 34 ft, Bawl Mill, 2,000 horsepower (hp), F.L. Smith;
- d. Kiln, 12 ft x 450 ft, Wet Process Rotary Kiln, F.L. Smith, 400 hp, kiln draft fan; and
- e. Clinker Cooler, Folax Grates, F.L. Smith.

Commitments to the construction of this equipment were made prior to August 17, 1971, so the equipment is not subject to New Source Performance Standards (NSPS) 40 Code of Federal Regulations (CFR), Part 60, Subpart F.

On April 16, 1975, the Ideal Cement Company was issued **Permit #811-050475** to combust coal in their cement kiln.

On July 19, 1976, Ideal Basic Industries was issued **Permit #982** to construct four Portland cement storage silos. These silos are controlled by a baghouse.

On January 6, 1984, a modification to **Permit #811-050475** was issued to Ideal Basic Industries, which allowed the gas/coal-fired cement kiln to burn a coal/coke combination fuel.

On August 9, 1990, Holnam submitted a Permit Application #0982-01 for use of alternative fuels in the cement kiln. This permit application was withdrawn.

On November 22, 1993, Holnam submitted Permit Application #0982-02 for replacement of sections of the cement kiln. The changes proposed in the application were determined to be maintenance and did not require a permit change.

Permit #0982-03 was issued to Holnam on July 29, 1995. Holnam proposed the following: upgrade the existing cement Finish Mill #2 baghouse to a modern baghouse; replace the Finish Mill #2 air slide; replace two existing dust collectors on the coal/coke process with one unit; and construct a separate coke grinding, storage, and transport system with dust collection.

The Finish Mill #2 baghouse, which replaced an existing baghouse, controls the emission units listed below.

- a. A replacement air slide;
- b. The clinker/gypsum feed belt via a booster fan;
- c. The Finish Mill #2;
- d. The bucket elevator; and
- e. The product separator.

The air slide is totally enclosed and is necessary for the transport of cement from the elevator to the product separator (air separator).

The replacement of two existing dust collectors with the coal/coke baghouse on the existing coal/coke diversion, crushing, and storage system controls the equipment listed below.

- a. A diverter valve at the top of the existing coal/coke storage silo;
- b. A 24-inch covered screw conveyor that transports the coke from the above diverter valve;
- c. A 290-ton "raw" coke storage silo;
- d. Two diverter valves;
- e. The hammermill;
- f. The bucket elevator;
- g. The coal/coke storage silo; and
- h. The covered screw conveyor.

The separate coke system transports coke on the existing path up to the point of delivery into the top of the coal/coke storage silo. At this point, the system incorporates a gate that discharges into a 290-ton capacity "raw" coke storage silo. Coal is diverted into the existing coal/coke storage silo. The raw coke storage silo gravity feeds onto a covered belt assembly, where the material is weighed before it is gravity fed into the coke grinding mill. The ground coke fines are then evacuated from the grinding mill by a 15,400-cfm fan that pneumatically transports the crushed coke to the coke system baghouse where the gas and solid phases are separated. The ground, "fine" coke material discharges from this dust collector into a 220-ton "fine" coke storage silo. Pneumatic transport of the fine coke particles from this silo to the kiln hood are facilitated by a coke blower system.

The coke system baghouse and fan controls the equipment listed below.

- a. A belt conveyor with weighing system at the base of the raw coke storage silo;
- b. A coke grinding mill;
- c. A 220-ton "fine" coke storage silo.

The emission increase due to the proposed changes were estimated at 10.84 tons per year of particulate matter (PM).

Permit #0982-04 was issued on May 8, 1998. Holnam submitted a complete permit application on March 30, 1998. The application proposed a pozzolan material (fly ash) system that included the following new equipment: pozzolan material storage silo with bin vent dust collector; rotary feeder; weighbelt conveyor; and screw line conveyor. Holnam intended to introduce pozzolan material at the finish mill to produce Holnam Performance Cement (HPC). Controlled particulate matter with an aerodynamic diameter of 10 microns or less (PM₁₀) emissions from the proposed equipment was approximately 2.10 tons per year. The permit was also updated to reflect compliance demonstrations and notifications that were completed and rule references that were outdated.

Permit #0982-03 had included conditions from Permits #282-072171, #293-080471, #811-050475, #982, and modification #811-050475. Therefore, Permit #0982-04 also replaced these permits.

Permit modification #0982-05 was issued on September 3, 1998, to allow Holnam to conduct a test burn that exceeds the operational limit in Section II.B.1. The amount of petroleum coke burned in the kiln was limited so that 15 tons per year of sulfur dioxide (SO₂) was not exceeded; therefore, this test burn could be completed according to ARM 17.8.705(1)(q).

However, as described in ARM 17.8.733(1)(c), the permit needed to be modified to allow the temporary burning of petroleum coke in excess of the limitation in Section II.B.1. Holnam was required to comply with the sulfur-in-fuel requirements contained in ARM 17.8.322(6)(c) and to maintain records to demonstrate compliance with the petroleum coke limitation in Section II.F.1.b of the permit. In addition, testing was required to determine emissions at the maximum rate of petroleum coke burned. Permit #0982-05 replaced Permit #0982-04.

Permit #0982-06 was issued on January 24, 1999. The 99.9% control efficiency for removal of particulate emissions from the kiln exhaust through the use of an ESP in Section II.A.4 of the permit was removed. The change did not result in an increase in allowable particulate emission rates from the kiln. Permit #0982-06 replaced Permit #0982-05.

Permit #0982-07 was issued on September 23, 1999. Holnam proposed (in Permit Application #0982-07) to use 800 tons per year of post-consumer recycled container glass in the kiln and handle 85,000 ton per year of landfilled cement kiln dust. Holnam submitted an emission inventory that identified 5.13 pounds (lb) per year of emissions of hazardous air pollutants being emitted as a result of using post-consumer recycled container glass. Holnam submitted a health risk assessment, which demonstrated that this proposal would constitute a negligible risk to human health and the environment. Handling 85,000 tons per year of landfilled cement kiln dust involved moving landfilled dust from the landfill with a front-end loader to a truck. The cement kiln dust would be sold for use in reclamation projects. Handling the cement kiln dust would result in an emission increase of approximately 23.8 tons per year of total PM and 11.9 tons per year of PM₁₀. Permit #0982-07 replaced Permit #0982-06.

Permit #0982-08 was issued on December 29, 1999, to correct condition II.B.5, which was intended to limit the use of pozzolan material fed through the pozzolan material system. This is specific to the pozzolan material storage silo, rotary feeder, weighbelt conveyor, screw line conveyor, and bin vent dust collector, and not the entire facility. Also, condition II.E.3 of Permit #0982-08 was updated to reflect this correction. Permit #0982-08 replaced Permit #0982-07.

Permit #0982-09 was issued on October 20, 2000. On August 10, 2000, Holnam submitted a permit application to request federally enforceable permit conditions to limit potential PM emissions. Holnam requested the federally enforceable conditions to ensure that the facility's potential emissions would be within the "area source" definition as defined in the Portland Cement Maximum Achievable Control Technology (PC MACT). Although this permit action could have been accomplished through a permit modification, an alteration was requested by Holnam to allow the public to comment on the permit. De minimis changes were also included in the permit (Department Decision) during the comment period. Permit #0982-09 replaced Permit #0982-08.

On April 6, 2001, Holnam submitted **permit application #0982-10** to the Department of Environmental Quality (Department) requesting a change to the fuel mixture to provide operational flexibility at the Trident facility. Holnam's current Permit #0982-09 authorized Holnam to burn up to 100% natural gas, 100% coal, up to 25% coke, or any combination of these fuels for the kiln, providing the coke limit was not exceeded. Holnam requested to remove the limit on the amount of petroleum coke burned in the kiln, to place emissions limits on the amount of SO₂ and nitrogen oxides (NO_x) emitted from the kiln, and to monitor emissions of those pollutants through the use of continuous emissions monitors (CEMs). This request would be accomplished through a modification to Permit #0982-05 performed on September 3, 1998. The modification was issued to Holnam to

conduct a temporary test burn that exceeded the operational limit of 25% petroleum coke. Additional equipment or significant modification of existing equipment at the facility was not required. In November 2000, source testing was performed during the coke test burn to evaluate NO_x and SO₂ emissions as the coke feed exceeded 25%. The amount of emissions from the test burn was restricted to less than 15 tons per year of SO₂ in accordance with ARM 17.8.745. Holnam was also required to comply with the sulfur-in-fuel requirements and maintain applicable records during the test. Analysis of the November 2000 source test data, provided by Holnam, suggested that NO_x and SO₂ emissions would not increase as a result of the increase in coke up to approximately 45% coke. However, in order to ensure that NO_x and SO₂ emissions from the kiln would not increase above significant levels, the Department established an emission limit for NO_x and SO₂.

On February 20, 2001, the Department received a letter from Holnam requesting a de minimis change to Permit #0982-09 for the recycling of cement kiln dust (CKD) directly back into the kiln. The Department agreed that emissions from the transfer of CKD would be a de minimis change to Permit #0982-09. Holnam, therefore, was not required to obtain a permit modification to commence with this project.

On April 11, 2001, Holnam submitted a request to modify the Permit #0982-09 to change or modify language in the permit. In general, the request included the removal of detailed equipment names and facility documentation requirements for pozzolan material, post consumer recycled container glass, and the amount of cement kiln dust handled from the “3rd day of each month” to the “10th day of each month.”

On June 19, 2001, Permit #0982-10 for an increase in petroleum coke, was appealed by The Sierra Club, Montanan’s Against Toxic Burning, and Montana Environmental Information Center. The appeal of Permit #0982-10 was dismissed before the Montana Board of Environmental Review (BER) on November 16, 2001. Permit #0982-10 was issued final with modifications on December 4, 2001. Permit #0982-10 replaced Permit #0982-09.

On October 3, 2001, Holnam submitted an application for an alteration to Montana Air Quality Permit #0982-10. After submittal of additional supporting information, the Department deemed the application to be complete on February 12, 2003. The permit application requested that the mid-kiln combustion of scrap/waste tires be added to the list of potential fuels for the facility. The tires would comprise up to 15 percent of the total fuel heat input to the kiln on a British Thermal Unit (Btu) basis. Holcim is currently authorized to burn natural gas, coal, petroleum coke, or any combination of these as a fuel for the kiln. This project would entail some limited modification to the kiln shell and would require additional miscellaneous equipment to handle and store tires at the facility. **Permit #0982-11** has not yet become final as an Environmental Impact Statement is being prepared for the proposed action.

On November 14, 2001, the Department received a letter from Holnam requesting a name change from Holnam, Inc. to Holcim (US) Inc. (Holcim) effective December 12, 2001.

Operating Permit Background

On June 6, 1996, the Department received an Operating Permit Application from Holnam. On July 26, 2001, Holnam was issued final and effective **Operating Permit #OP0982-00**.

On January 26, 2006, the Department received a Title V Operating Permit Renewal Application (OP0982-01) from Holcim. The application was assigned Permit Application #OP0982-01 and was deemed administratively complete on February 24, 2006, and technically complete on March 24, 2006. Operating Permit #OP0982-01 incorporates all applicable source changes since the issuance of Operating Permit #OP0982-00. In addition, the facility name was changed from Holnam to Holcim

and the responsible official information was updated. Furthermore, the permit was updated to reflect current Department Title V operating permit language and format. **Operating Permit #OP0982-01** replaced Operating Permit #OP0982-00.

D. Current Permit Action

On November 10, 2008, the Department received an application for a minor operating permit modification for Holcim (US) Inc. (Permit #OP0982-01). The application was assigned Permit Application #OP0982-02 and was deemed administratively complete on December 10, 2008, and technically complete on January 6, 2009. The purpose of the permit modification is to change the differential pressure (dP) indicator range in the required Compliance Assurance Monitoring (CAM) plan for EU022, clinker cooler baghouse. Differential pressure data collected indicates that the 24-hour average for the low pressure (2.5 inches of water) is set too high for normal operating conditions. In July 2008, the baghouse was thoroughly inspected internally and the bags were found in good condition. The low value of the dP indicator range has been adjusted to 1.0 inch of water. **Operating Permit #OP0982-02** replaces Operating Permit #OP0982-01.

E. Taking and Damaging Analysis

HB 311, the Montana Private Property Assessment Act, requires analysis of every proposed state agency administrative rule, policy, permit condition or permit denial, pertaining to an environmental matter, to determine whether the state action constitutes a taking or damaging of private real property that requires compensation under the Montana or U.S. Constitution. As part of issuing an operating permit, the Department is required to complete a Taking and Damaging Checklist. As required by 2-10-101 through 2-10-105, MCA, the Department conducted the following private property taking and damaging assessment.

YES	NO	
		1. Does the action pertain to land or water management or environmental regulation affecting private real property or water rights?
	X	2. Does the action result in either a permanent or indefinite physical occupation of private property?
	X	3. Does the action deny a fundamental attribute of ownership? (ex.: right to exclude others, disposal of property)
	X	4. Does the action deprive the owner of all economically viable uses of the property?
	X	5. Does the action require a property owner to dedicate a portion of property or to grant an easement? [If no, go to (6)].
		5a. Is there a reasonable, specific connection between the government requirement and legitimate state interests?
		5b. Is the government requirement roughly proportional to the impact of the proposed use of the property?
	X	6. Does the action have a severe impact on the value of the property? (consider economic impact, investment-backed expectations, character of government action)
	X	7. Does the action damage the property by causing some physical disturbance with respect to the property in excess of that sustained by the public generally?
	X	7a. Is the impact of government action direct, peculiar, and significant?
	X	7b. Has government action resulted in the property becoming practically inaccessible, waterlogged or flooded?
	X	7c. Has government action lowered property values by more than 30% and necessitated the physical taking of adjacent property or property across a public way from the property in question?
	X	Takings or damaging implications? (Taking or damaging implications exist if YES is checked in response to question 1 and also to any one or more of the following questions: 2, 3, 4, 6, 7a, 7b, 7c; or if NO is checked in response to questions 5a or 5b; the shaded areas)

Based on this analysis, the Department determined there are no taking or damaging implications associated with this permit action.

F. Compliance Designation

The Department last inspected Holcim on February 26, 2008, and the Department found Holcim to be in compliance with applicable requirements.

SECTION II. SUMMARY OF EMISSION UNITS

A. Facility Process Description

The production of Portland cement begins at the quarry. Most of the raw material used in the cement process is combined high- and low-grade limestone quarried from Holcim's quarry. Limestone rock and other raw materials are blasted and loaded onto trucks and transported to the crusher or to stockpiles. The raw materials are conveyed from the primary crushers and delivered by belt conveyors to the storage bins.

From the storage bins, the raw materials are conveyed to the ball mill where the ore is ground with water to form a slurry and sent to storage tanks. In the tanks, the slurry is blended thoroughly before entering the kiln.

Slurry is pumped to the uphill end of the kiln and heated in the kiln, evaporating water (H₂O) from the slurry and turning it into clinker. The plant uses a combination of natural gas, coal and/or coke as fuel sources for the clinker production.

When the clinker leaves the kiln, it is cooled, transported by drag chains, pan conveyor and bucket elevator to the clinker bins or outside storage. From there, clinker and gypsum go to the finish ball mill, where it is ground to produce Portland cement. The final cement product is conveyed to storage silos where it is loaded into railroad cars, bulk trucks, or bagged and loaded onto trucks.

B. Emission Units and Pollution Control Device Identification

Emissions Unit ID	Description	Pollution Control Device/Practice
EU001	Fugitive Emissions: Disturbed Areas	None
EU003	Quarry Blasting	None
EU005	Raw Material Transfer and Conveying	Baghouses
EU006	Raw Material Storage Piles	Water and/or Chemical Dust Suppressant
EU007	Fugitive Emissions: Haul Roads	Water and/or Chemical Dust Suppressant
EU008	Primary Crusher	Baghouse
EU009	Crusher Screen	Baghouse
EU010	Raw Material Silo #1 Loading & Unloading	Baghouse
EU011	Raw Material Silos #2 & #3 Loading & Unloading	Baghouse
EU012	Raw Material Silos #4 & #5 Loading & Unloading	Baghouse
EU013	Raw Material Silos #6 & #7 Loading & Unloading	Baghouse
EU014	Coal/Coke Unloading	Baghouse
EU015	Coal Transfer	Baghouse
EU018	Coal/Coke Primary Crusher	Baghouse
EU019	Coal Silo Loading & Unloading & Secondary Crushing	Baghouse
EU020	Coke Silo Loading & Unloading, & Secondary Crushing	Baghouse
EU021	Kiln	ESP
EU022	Clinker Cooler	Baghouse
EU023	Inside Clinker Transfer from Cooler	Baghouse
EU024	Clinker Storage Silo #1, #2, & Interstice Bin Load/Unload	Baghouse
EU025	Cement Kiln Dust Silo Loading	Baghouse
EU026	Cement Kiln Dust Silo Unloading to Truck	Water and/or Chemical Dust Suppressant
EU027	Outside Clinker Bins Loading	Baghouse
EU028-031	Outside Clinker Storage Silos 1-4	None
EU032	#2 Finish Mill	Baghouse
EU033	Clinker Transfer to #2 Finish Mill & #3 Finish Mill	Baghouse
EU034	#3 Finish Mill	Baghouse
EU035	Clinker Transfer to #4 Finish Mill	Baghouse
EU036	#4 Finish Mill Product Separator	Baghouse
EU037	#4 Finish Mill	Baghouse

EU038	Dust Discharge Spout between Kiln and Precipitator	Baghouse
EU040	Import Clinker Unloading & Transfer	Baghouse
EU041	Gypsum Unloading & Transfer	Baghouse
EU043	Outside Clinker Transfer to Reclaim Building	Baghouse
EU044	Cement Loaded/Unloaded at Silos #1-7, 10, 11, & 13	2 Baghouses
EU045	Cement Loaded/Unloaded at Silos #8, 9 , & 12	2 Baghouses
EU046	Cement Transferred form Silos #1-13 to Bulk Load Silos #14-25	Baghouse
EU047	Cement Loaded/Unloaded at Silos #14-25	2 Baghouse
EU048	Cement Loaded/Unloaded at Silos #26-30	Baghouse
EU049-050	Bulk Cement Truck Transfer/Loadouts 1 & 2	2 Baghouses
EU051	Bulk Cement Railcar Transfer/Loadouts 1 & 2	Baghouse
EU053	CKD and Flyash Transfers to/from Pozzolan Silo	Baghouse
EU054	Landfilled Cement Kiln Dust Handling	None
EU055	Material Handling System for Feeding the Finish Mills	3 Baghouses
EU059	Post Consumer Recycled Glass Transfers	None
EU060	Overflow Gypsum Transfer to Ground	None
EU061	Overflow Gypsum Transfer to Reclaim Building	Feed Hopper Enclosed in Building
EU062	CKD Recycle Dust Scoops	2 Baghouses

C. Categorically Insignificant Sources/Activities

Appendix A of Permit #OP0982-02 lists insignificant emission units at the facility. The permittee is not required to update a list of insignificant emission units; therefore, the emission units and/or activities may change from those specified in Appendix A of Permit #OP0982-02.

SECTION III. PERMIT CONDITIONS

A. Emission Limits and Standards

Holcim shall comply with the general applicable requirements as well as some specific requirements. Holcim shall comply with the 20% and 40% opacity limitations, which is dependent on the year of installation. Holcim is also required to comply with the sulfur in fuel limitation, including the exemption contained in ARM 17.8.322(6)(c) for the Kiln. The Kiln is also subject to the alternative operating scenario contained in Section III.G. of the operating permit.

Concerning the kiln alternative operating scenario, on September 23, 1999, Holcim was issued Permit #0982-07 allowing the facility to use post-consumer recycled container glass in the kiln. The use of post-consumer recycled container glass in the kiln is considered an alternative operating scenario in the operating permit. In Permit #0982-07, the Department determined that this activity met the statutory definition of an incinerator contained in MCA 75-2-103 and the intent of House Bill 380.

Permit #0982-07 was issued under the revisions to ARM 17.8.316, adopted by the Board of Environmental Review and effective on July 8, 1997, that provide that a facility is not subject to the limitations of ARM 17.8.316(1), (2), and (3) if they receive a permit through ARM 17.8.706(5) and MCA 75-2-215. The revisions to ARM 17.8.316 have not been incorporated into the State Implementation Plan (SIP). Consequently, the opacity and particulate limitations in ARM 17.8.316 are federally enforceable. Holcim is using post-consumer recycled container glass as a raw material substitute in the kiln. However, according to the Administrative Rules of Montana, ARM 17.8.316 is not applicable because Holnam received Permit #0982-07 in accordance with ARM 17.8.706(5) and MCA 75-2-215. The applicable emission limitations for the state of Montana when Holcim is using glass in the kiln are listed in the alternative operating scenario contained in Section III.G of the operating permit.

ARM 17.8.1201(10) defines applicable requirements for operating permits as including any standard, rule, or other requirement contained in the Montana State Implementation Plan. Since ARM 17.8.316 has not been revised in the SIP, Holcim's operating permit must contain the requirement that Holcim's kiln maintain compliance with the limitations in ARM 17.8.316 while using post-consumer container glass. Because the opacity and particulate limitations in ARM 17.8.316 are in the operating permit, they are both federally and state enforceable (i.e. EPA and the state of Montana can enforce the 10% opacity and 0.10 gr/dscf particulate limit).

For monitoring pertaining to the opacity and particulate matter limitations, Holcim shall inspect and maintain an ESP in accordance with Appendix E of the operating permit. The alternative operating scenario also lists emission testing requirements in Section III.G of the permit. Emission testing may be required pursuant to ARM 17.8.106; however, the Department does not intend for Holcim to conduct testing every time post-consumer recycled container glass is used in the kiln. Furthermore, the Department has not required Holcim to test on a regular basis to demonstrate compliance.

The facility-wide applicable requirements are contained in Section III.A of the operating permit. The insignificant emission units, which are still subject to the generally applicable facility-wide requirements, are listed in Appendix A of the operating permit. The Emission unit specific requirements are contained in Sections III.B through III.W of the operating permit. Each condition has the specific rule reference in parentheses after the condition. The rule references are an indicator of the Department's authority to subject the emission unit(s) to the respective condition(s). Authorities include the Administrative Rules of Montana, New Source Performance Standards, Maximum Achievable Control Technologies, and the State Implementation Plan.

B. Monitoring Requirements

ARM 17.8.1212(1) requires that all monitoring and analysis procedures or test methods required under applicable requirements are contained in operating permits. In addition, when the applicable requirement does not require periodic testing or monitoring, periodic monitoring must be prescribed that is sufficient to yield reliable data from the relevant time period that is representative of the source's compliance with the permit.

The requirements for testing, monitoring, recordkeeping, reporting, and compliance certification sufficient to assure compliance does not require the permit to impose the same level of rigor for all emission units. Furthermore, it does not require extensive testing or monitoring to assure compliance with the applicable requirements for emission units that do not have significant potential to violate emission limitations or other requirements under normal operating conditions. When compliance with the underlying applicable requirement for an insignificant emissions unit is not threatened by lack of regular monitoring and when periodic testing or monitoring is not otherwise required by the applicable requirement, the status quo (**i.e., no monitoring**) will meet the requirements of ARM 17.8.1212(1). Therefore, the permit does not include monitoring for insignificant emission units.

The permit includes periodic monitoring or recordkeeping for each applicable requirement. The information obtained from the monitoring and recordkeeping will be used by the permittee to periodically certify compliance with the emission limits and standards. However, the Department may request additional testing to determine compliance with the emission limits and standards.

Title V Operating Permit #OP0982-00 required a Method 9 source test to be conducted annually to demonstrate compliance with the opacity requirements for the kiln (Section II.G). However, the Department is requiring a continuous opacity monitoring system (COMS) to monitor compliance with the opacity requirements of the kiln in the renewed operating permit (#OP0982-01) because of numerous concerns of whether the kiln is continuously meeting the opacity requirements and because Holcim has installed, but not certified, a COMS and continuously relies on the uncertified COMS data when the opacity of the kiln is in question.

C. Test Methods and Procedures

The operating permit may not require testing for all sources if routine monitoring is used to determine compliance, but the Department has the authority to require testing if deemed necessary to determine compliance with an emission limit or standard. In addition, the permittee may elect to voluntarily conduct compliance testing to confirm its compliance status.

The Department determined the frequency of emission testing for particulate and opacity based on the potential to emit of each emission unit as well as the requirements applicable to each emission unit. Particulate and opacity testing are required more frequent than as required by the Department for the following emission units: EU008, EU009, EU014, EU015, EU018, EU019, EU020, EU021, EU022, EU032, EU034, EU036, EU037, EU044, EU045, EU046, EU047, EU048, EU049, EU050, EU051, and EU062.

Preconstruction permit condition II.D.7 states "...Holcim shall conduct additional particulate emission limit tests at least once every 4 years thereafter, or according to another testing/monitoring schedule as may be approved by the Department." The testing was required to demonstrate compliance with the 0.77 lb/ton of clinker produced limit that applies to the kiln. In the operating permit, the Department is requiring annual testing of the kiln to demonstrate compliance with the particulate emission limit. Requiring annual testing of the kiln to demonstrate compliance with particulate limits is consistent with compliance demonstration requirements for other similar Title V sources.

D. Recordkeeping Requirements

The permittee is required to keep all records listed in the operating permit as a permanent business record for at least 5 years following the date of the generation of the record.

E. Reporting Requirements

Reporting requirements are included in the permit for each emissions unit and Section V of the operating permit "General Conditions" explains the reporting requirements. However, the permittee is required to submit semi-annual and annual monitoring reports to the Department and to annually certify compliance with the applicable requirements contained in the permit. The reports must include a list of all emission limit and monitoring deviations, the reason for any deviation, and the corrective action taken as a result of any deviation.

SECTION IV. NON-APPLICABLE REQUIREMENT ANALYSIS

Holcim requested a permit shield in Operating Permit Application #OP0982-02. The Department granted a shield for all non-applicable requirements listed in Attachment 3 of the application that the Department agreed were non-applicable. The discussion below lists the requirements that the permittee identified as non-applicable and the reason(s) that the Department did not provide a shield for the requirement.

Table 4. Regulations Not Identified as Non-Applicable By the Department. *Table 4 lists the requirements that the Department did not provide a shield for the requirement.*

Reason	Rule Citation	
These rules do not have specific requirements for major sources because they are requirements for EPA of state and local authorities. These rules can be used as authority to impose specific requirements on a major source.	40 CFR 50 40 CFR 51 40 CFR 53 40 CFR 54 40 CFR 56 ARM 17.8.130 ARM 17.8.510 ARM 17.8.1222-1223 ARM 17.8.1228	40 CFR 58 40 CFR 62 40 CFR 65 40 CFR 67 40 CFR 81 ARM 17.8.142 ARM 17.8.1210-1215 ARM 17.8.1225 ARM 17.8.1231-1232
These regulations may not be applicable to the source at this time, however, these regulations may become applicable during the life of the permit.	40 CFR 60.13-60.18 ARM 17.8.107-109 ARM 17.8.131 ARM 17.8.303 ARM 17.8.311-314 ARM 17.8.327-329 ARM 17.8.502-503 ARM 17.8.511-515 ARM 17.8.607-609 ARM 17.8.701-734 ARM 17.8.1216-1219 ARM 17.8.1226-1227	ARM 17.8.104 ARM 17.8.112-129 ARM 17.8.133-141 ARM 17.8.305-307 ARM 17.8.317-319 ARM 17.8.335-339 ARM 17.8.507-509 ARM 17.8.603 ARM 17.8.611-615 ARM 17.8.1208-1209 ARM 17.8.1224
These Rules do not have specific requirements and are always relevant to a major source.	40 CFR 52	
These rules may or may not be relevant but the Department will not be granting a shield for these rules.	40 CFR 60 Subpart FF 40 CFR 60 Subpart CCC 40 CFR 60 Subpart EEE 40 CFR 60 Subpart MMM 40 CFR 60 Subpart GGGG 40 CFR 60 Appendix E 40 CFR 61 Subparts A, G, S, U, X, Z, AA, and CC-EE 40 CFR 63 Subpart A-E, K, P, V, Z, FF, ZZ, FFF, SSS, 40 CFR 66 40 CFR 69-71 40 CFR 98-99	
Rules that are always applicable to a major source and may contain specific requirements for compliance.	ARM 17.8.326	
These rules include either a statement of purpose, applicability statement, regulatory definitions, or a statement of incorporation by reference. Therefore, facility wide permit shields will not be granted for these rules.	ARM 17.8.301-302 ARM 17.8.401 ARM 17.8.740 ARM 17.8.901 ARM 17.8.1101 ARM 17.8.1234 ARM 17.8.1401	ARM 17.8.330 ARM 17.8.501 ARM 17.8.801 ARM 17.8.1001 ARM 17.8.1201-1203 ARM 17.8.1301
Repealed Regulations	ARM 17.8.323	ARM 17.8.315

SECTION V. FUTURE PERMIT CONSIDERATIONS

A. MACT Standards

Holcim is subject to 40 CFR 63, Subpart LLL-National Emission Standards for Hazardous Air Pollutants from the Portland Cement Manufacturing Industry. The compliance date for an owner or operator of an existing affected source was June 14, 2002.

Permit #0982-09, issued on October 20, 2000, provided Holcim with federally enforceable permit conditions to limit potential particulate matter emissions. Holcim requested the federally enforceable conditions to ensure that the facility's potential emissions would be within the "area source" definition. Consequently, the kiln at Holcim is the only affected source and must meet the appropriate emission limits and operating limits. As identified in Subpart LLL, the kiln is subject to the dioxin and furan emission limits and the Particulate Matter Control Device (PMCD) inlet temperature operating limit to control dioxin and furan emissions.

As of the issuance date of Permit OP0982-02, the Department is unaware of any future MACT Standards that may be promulgated that will affect this facility.

B. NESHAP Standards

As of the issuance date of Permit OP0982-02, the Department is unaware of any future NESHAP Standards that may be promulgated that will affect this facility.

C. NSPS Standards

Portions of the Holcim facility are subject to 40 CFR 60, Subpart F-Standards of Performance for Portland Cement Plants and 40 CFR, Subpart Y-Standards of Performance for Coal Preparation Plants.

Sources subject to the requirements of Subpart F are applicable if the facility commences construction or modification of that source after August 17, 1971. This Subpart applies to sources at Holcim, including, but not limited to, the following:

- a. Finish Mill #2;
- b. Finish Mill #4; and
- c. Storage Silos #26 through 30.

Finish Mill #4 replaced Finish Mill #1 in 1988 and the product storage silos were installed in 1976. Since commencement of construction occurred after August 17, 1971, for both of these sources, 40 CFR 60, Subpart F applies. The replacement of the air slide in the Finish Mill #2 system was considered a modification of the Finish Mill #2 system. Since this modification was proposed to occur after August 17, 1971, then 40 CFR Part 60, Subpart F was also considered applicable to Finish Mill #2.

Equipment in emission units 015 Coal/Coke Transfer and Crushing and 018 Coal Silo Loading and Unloading was constructed or modified after the Subpart Y's applicable date of October 24, 1974. Under 40 CFR 60.252 Standards for Particulate Matter, the applicable standard for the equipment is 20% opacity. However, equipment in emission units 015 and 018 is covered under preconstruction permit condition II.C.7 that limits opacity to 20% via ARM 17.8.715. Therefore, the operating permit does not reference 40 CFR 60, Subpart Y for emission units 015 or 018.

D. Risk Management Plan

As of the issuance date of OP0982-02, this facility does not exceed the minimum threshold quantities for any regulated substance listed in 40 CFR 68.115 for any facility process. Consequently, this facility is not required to submit a Risk Management Plan.

If a facility has more than a threshold quantity of a regulated substance in a process, the facility must comply with 40 CFR 68 requirements no later than June 21, 1999; 3 years after the date on which a regulated substance is first listed under 40 CFR 68.130; or the date on which a regulated substance is first present in more than a threshold quantity in a process, whichever is later.